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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/658,275	09/08/2000	James C. Solinsky	3826-2	3667

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EXAMINER	
SHARON, AYAL I	

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/658,275	SOLINSKY, JAMES C.	
	Examiner	Art Unit	
	Ayal I. Sharon	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38 and 40-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38 and 40-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. Claims 1-38 and 40-59 of U.S. Application 09/658,275, originally filed on 09/08/2000, are currently pending.
2. The application claims benefit of provisional application 60/215,762, filed 6/30/2000.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. The following rejections are based on Annex IV of the "Interim Guidelines for Examination of Patent Applications for Subject Matter Eligibility", effective Oct. 26, 2005, and posted on the USPTO official website at the following URL: http://www.uspto.gov/web/offices/pac/dapp/ogsheet.html
5. **Claims 1-38 and 40-59 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.** An invention which is eligible for patenting under 35 U.S.C. § 101 is in the "useful arts" when it is a machine, manufacture, process or composition of matter, which produces a concrete, tangible, and useful result. The fundamental test for patent eligibility is thus to determine whether the claimed invention produces a "**useful, concrete and tangible result.**" According to p.4 of the Interim Guidelines,

> The claimed invention as a whole must be useful and accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96 (1966)); In re Fisher, 421 F.3d 1365, 76 USPQ2d 1225 (Fed. Cir. 2005); In re Ziegler, 992 F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

The test for practical application as applied by the examiner involves the determination of the following factors:

a. "**Useful**" - The Supreme Court in *Diamond v. Diehr* requires that the examiner look at the claimed invention as a whole and compare any asserted utility with the claimed invention to determine whether the asserted utility is accomplished. Applying utility case law the examiner will note that:

   3. the utility need not be expressly recited in the claims, rather it may be inferred.

   4. if the utility is not asserted in the written description, then it must be well established.

b. "**Tangible**" - Applying *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994), the examiner will determine whether there is simply a mathematical construct claimed, such as a disembodied data structure and method of making it. If so, the claim involves no more than a manipulation of an abstract idea and therefore, is nonstatutory under 35 U.S.C. § 101. In *Warmerdam* the abstract idea of a data structure

became capable of producing a useful result when it was fixed in a tangible medium which enabled its functionality to be realized. See MPEP §2106 (A). See also *Schrader*, 22 F.3d at 295, 30 USPQ2d at 1459.

c. "**Concrete**" - Another consideration is whether the invention produces a "concrete" result. Usually, this question arises when a result cannot be assured. An appropriate rejection under 35 U.S.C. § 101 should be accompanied by a lack of enablement rejection, because the invention cannot operate as intended without undue experimentation.

6. The Examiner respectfully submits that under current PTO practice, the claimed invention does not recite *a concrete, useful, or tangible result*. The results are not useful or tangible because the output signals do not have an identified practical application.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claim 1-38 and 40-59 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The amended independent claims

1, 9, 17, 25, 33, and 35 recite that the output signals are "generate[d] for an effector or a user interface".

9. In regards to an "effector", the disclosure at most shows a camera and a thermometer (Fig.3, Item 12) - but these are not described in the accompanying text at specification p.24. Not only does the disclosure not provide an adequate description of how the output signals are "generated" for a camera or a thermometer, the specification also does not reasonably provide enablement for any other type of effectors, of which there are many. (There is a very broad range of effectors, including mechanical, thermal, electrical, optical, sonic, ultrasonic, etc.).

10. In regards to user interface, again there is a broad variety – not only a keyboard, but also a video monitor, mouse, microphone, speakers, touchpad, etc. The specification does not not provide an adequate description of how the output signals are "generated" for these types of user interfaces.

Response to Arguments

Re: Claim Rejections - 35 USC § 101

11. Examiner has withdrawn the 35 USC § 101 "lack of utility" rejections in light of applicant's amendments to the claims, and the example of identity verification based on handwriting and speech recognition (see p.11, lines 13-15).

12. On the other hand, examiner has maintained the 35 USC § 101 rejections based on the lack of a concrete, useful, tangible result.

13. The fundamental test for patent eligibility is to determine whether the claimed invention produces a "**useful, concrete and tangible result.**" See State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F. 3d 1368, 47 USPQ2d 1596 (Fed. Cir. 1998) and AT&T Corp. v. Excel Communications, Inc., 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999). In these decisions, the court found that the claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result."

14. See State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. ("[T]he transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces 'a useful, concrete and tangible result' – a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades").

15. See also AT&T, 172 F.3d at 1358, 50 USPQ2d at 1452 (Claims drawn to a long-distance telephone billing process containing mathematical algorithms were held patentable subject matter because the process used the algorithm to produce a useful, concrete, tangible result - a primary inter-exchange carrier ("PIC") indicator - without preempting other uses of the mathematical principle).

16. Since the instant claims lack a concrete, useful, and tangible result, the claims in the instant application are directed to every "substantial practical application" of the underlying mathematical model.

17. One may not patent every "substantial practical application" of an idea, law of nature or natural phenomena because such a patent "in practical effect be a patent on the [idea, law of nature or natural phenomena] itself." Gottschalk v. Benson, 409 U.S. 63, 71-72, 175 USPQ 673, 676 (1972).

18. The Examiner respectfully submits that the amended claims still do not recite a concrete, useful, tangible result.

Re: Claim Rejections - 35 USC § 112

19. Examiner has withdrawn the 35 USC § 112 rejections in light of applicant's amendments to the claims, and the example of identity verification based on handwriting and speech recognition (see p.11, lines 13-15).

Re: Claim Rejections - 35 USC § 102

20. Examiner has found Applicant's arguments regarding the "Austin_045.pdf" reference to be persuasive. Examiner has withdrawn all rejections based on this reference. Independent claims 1, 9, 17,25, 33, and 35 have recently been amended to indicate that the output signals are for "an effector or a user interface." There is a very broad variety of possible effectors – mechanical devices, thermal devices, light devices, electrical devices, etc.

Conclusion

21. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.

22. Anastasio, M. et al. "A General Technique for Smoothing Multi-Dimensional Datasets Utilizing Orthogonal Expansions and Lower Dimensional Smoothers." Proc. 1998 Int'l Conf. on Image Processing (ICIP '98). Oct. 1998. Vol.2, pp.718-721. [Teaches that "an effective N-dimensional smoothing can be achieved by utilization of a series of non-identical n-dimensional (n<N) smoothings on the coefficients of a partially orthogonal expansion of the data function." See abstract. Also teaches that this method can be used "in the statistical signal and image processing communities" (see Conclusion).]

23. Anastasio, M. et al. "Multidimensional Smoothing Using Orthogonal Expansions." IEEE Signal Processing Letters. Apr. 1999. Vol.6, Issue 4, pp.91-94. (Teaches similar subject matter as the above article by the same authors. Note that the two articles have the same figures.

24. U.S. Patent 5,920,644 to Fujimoto et al. (Teaches the use of orthonormal partial eigenspace in col.11, line 54 to col.12, line 5).

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (571) 272-3714. The examiner can normally be reached on Monday through Thursday, and the first Friday of a bi-week, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Rodriguez can be reached at (571) 272-3753.

Any response to this office action should be faxed to (571) 273-8300, or mailed to:

USPTO
P.O. Box 1450
Alexandria, VA 22313-1450

or hand carried to:

USPTO
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Tech Center 2100 Receptionist, whose telephone number is (571) 272-2100.

Ayal I. Sharon
Art Unit 2123
October 20, 2006

PAUL RODRIGUEZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

10/26/06